

CLAIMS

1. A transfer tool that used for transferring a transfer material on a transferred object such as paper, comprising:

a transfer tool main body having a transfer head that can bring at least the transfer material into contact with the transferred object; and

a transferred object receiver that is accompanied by the transfer tool main body;

wherein a transfer head has a transfer face that is a region contacting the transferred object and transferring the transfer material when transferring the transfer material on the transferred object;

an insertion space is formed between the transfer tool main body and the transferred object receiver, in which the transferred object can be inserted;

the transfer head is positioned so that at least the transfer face is exposed in the insertion space; and

the transfer material is transferred on the transferred object by slidably moving the transfer face to a predetermined transfer direction while bringing the transfer face into contact with the transferred object with the transferred object inserted in the insertion space and the transferred object sandwiched between the transfer tool main body and the transferred object receiver.

2. The transfer tool according to Claim 1,
wherein the insertion space is continuously opened to three directions comprising at least a predetermined transfer direction, a reverse transfer direction, and a direction that is orthogonal to the transfer direction and the reverse transfer direction.

3. The transfer tool according to Claim 1 or 2,
wherein the transfer material is transferred on the transferred object by sliding the transfer face of the transfer head on the surface of the transferred object upon transfer.

4. The transfer tool according to Claim 1 or 2,
wherein the transfer head comprises a transfer roller having the transfer face that can be rotated upon transfer.

5. The transfer tool according to Claim 4,
wherein a first auxiliary roller is provided on the transferred object receiver, which can be rotated in conjunction with the transfer roller upon transfer.

6. The transfer tool according to Claim 5,
wherein the first auxiliary roller is provided at a position opposed to the transfer roller.

7. The transfer tool according to Claim 5 or 6,
wherein the first auxiliary roller has a backing face that is a region that can be opposed to the transfer face and can contact the rear face of the transferred object upon transfer and the backing face and the transfer face are relatively connected and separated each other.

8. The transfer tool according to Claim 7,
wherein the transferred object receiver comprises a base and at least the first auxiliary roller, and further comprises an arm portion that can carry out the balancing operation with respect to the base.

9. The transfer tool according to Claim 7,
wherein a first auxiliary roller cradle supporting a rotational support shaft of the first auxiliary roller is configured so as to be elastically deformed in a direction connecting and separating to and from the transfer head.

10. The transfer tool according to Claims 5, 6, 7, 8 or 9,
wherein the first auxiliary roller is formed by a cushion material that is elastically deformed at least in a direction connecting and separating to and from the transfer head.

11. The transfer tool according to Claims 5, 6, 7, 8, 9, or 10

wherein a pair and more of second auxiliary rollers is provided, which are opposed at the side of the transfer tool main body and the side of the transferred object at a position in the insertion space that is different from the position where the transfer roller is opposed to the first auxiliary roller.

12. The transfer tool according to Claim 11,

wherein a first endless track mechanism winding a crawler track between at least one second auxiliary roller and at least one transfer roller is provided with the transfer tool.

13. The transfer tool according to Claim 11 or 12,

wherein a second endless track mechanism winding a crawler track between at least one second auxiliary roller and at least first auxiliary roller is provided at the transferred object receiver.

14. The transfer tool according to Claim 11, 12, or 13, wherein the transferred object receiver comprises a base and at least one second auxiliary roller and further comprises an arm portion that can carry out the balancing operation with respect to the base.

15. The transfer tool according to Claim 11, 12, or 13, wherein the transferred object receiver comprises at least one second auxiliary roller and a second auxiliary roller cradle supporting a rotational support shaft of the second auxiliary roller is configured so as to be elastically deformed in a direction connecting and separating to and from the other second auxiliary roller that is provided with the transfer tool main body so as to be opposed to the one second auxiliary roller.

16. The transfer tool according to Claim 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, or 15,

wherein the transferred object receiver is configured so as to be relatively movable with respect to the transfer tool main body between a transfer head covered position where the front end portion of the transfer head can be covered and a transfer head exposed position where the front end portion of the transfer head is exposed.

17. The transfer tool according to Claim 16, comprising: a slidably moving mechanism which relatively moves the transferred object receiver between the transfer head covered position and the transfer head exposed position by slidably moving the transferred object receiver in the transfer direction or in the reverse transfer direction with respect to the transfer tool main body.

18. The transfer tool according to Claim 17,

wherein the slidably moving mechanism is configured by a shaft provided at the transfer tool main body and a bearing portion formed on the transferred object receiver so as to support the shaft;

a groove is formed on the bearing portion, in which the shaft can be inserted and which is elongated in the transfer direction or the reverse transfer direction; and

the transferred object receiver is configured so as to be slidably movable with respect to the transfer tool main body between the transfer head covered position and the transfer head exposed position by slidably moving the shaft along the elongated direction of the groove.

19. The transfer tool according to Claim 16, comprising:

a rotatably moving mechanism which relatively moves the transferred object receiver between the transfer head covered position and the transfer head exposed position by rotatably moving the transferred object receiver in a predetermined direction with respect to the transfer tool main body.

20. The transfer tool according to Claim 19,

wherein the rotatably moving mechanism is configured by a shaft provided at the transfer tool main body and a bearing

portion formed on the transferred object receiver so as to rotatably support the shaft; and

the transferred object receiver is configured so as to be rotatably movable with respect to the transfer tool main body between the transfer head covered position and the transfer head exposed position using a pivoting point between the shaft and the bearing portion as a support point.

21. The transfer tool according to Claim 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, or 20, comprising:
regulating means that prevents the transfer tool main body and the transferred object receiver from moving close each other for a predetermined distance or more upon transfer.

22. The transfer tool according to Claim 21,
wherein the regulating means uses an elongated chip that is provided at any one of the transfer tool main body or the transferred object receiver and is elongated to the other one; and the elongated chip abuts against the other one by priority when transferring the transfer material on the transferred object.

23. The transfer tool according to Claim 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, or 20, comprising:
guide means that can abut against the edge portion of the

transferred object when the transferred object is inserted in the insertion space;

wherein the transferred object is guided by this guide means so as to be movable in the insertion space.

24. The transfer tool according to Claim 23,

wherein the guide means uses an elongated chip that is provided at any one of the transfer tool main body or the transferred object receiver and is elongated to the other one.

25. The transfer tool according to Claim 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, or 20, comprising:

regulating means that prevents the transfer tool main body and the transferred object receiver from moving close each other for a predetermined distance or more upon transfer;

wherein the regulating means functions as the guide means that can abut against the edge portion of the transferred object when the transferred object is inserted in the insertion space.

26. The transfer tool according to Claim 25,

wherein the regulating means uses an elongated chip that is provided at any one of the transfer tool main body or the transferred object receiver and is elongated to the other one; the elongated chip abuts against the other one by priority when transferring the transfer material on the transferred object;

and the guide means uses the elongated chip.

27. The transfer tool according to Claim 22, 24, or 26, wherein the elongated chip can close one side along the transfer direction.

28. The transfer tool according to Claim 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, or 27,

wherein a shaft to rotatably support the transferred object receiver with respect to the transfer tool main body is firmly fixed to the transfer tool main body; a pair of opposed edge portions is formed on the shaft, the opposed edge portions being located approximately in parallel with each other at least seen from the side and are elongated along the elongated direction of the transferred object receiver; and the initial state being set so that these opposed edge portions are different from the transfer direction;

an elastically deforming part is provided, in which a bearing portion for inserting the shaft is formed at the transferred object receiver and an opening portion having the approximately same opening dimension as the distance between the opposed edge portions of the shaft is formed; and

the shaft is inserted in a region where the opening portion and the bearing portion are communicated in the initial state;

and by elastically deforming the elastically deforming part due to the pressure welding force between the opposed edge portion and the inside portion of the opening portion during the process of rotating the transferred object receiver in a direction closing to the transfer tool main body centering around the shaft from the initial state that the opposed edge portion and the inside portion of the opening portion are welded with pressure; and thus, a urging force to urge the transferred object receiver to a direction to separate the transferred object receiver from the transfer tool main body is accumulated.

29. The transfer tool according to Claim 22, 24, 26, or 27,

wherein an inward face located at least the side of the insertion space of the elongated chip and a first virtual standing face that is a virtual standing face passing through the transfer face forms a blunt angle opening to the transfer direction.

30. The transfer tool according to Claim 29,

wherein making the first virtual standing face to be orthogonal to the transfer direction, the inward face and the first virtual standing face are set to form the blunt angle opening to the transfer direction.

31. The transfer tool according to Claim 30,

wherein the elongated chip is provided at the transfer tool main body, and the outside wall of the transfer tool main body is set to be located approximately in parallel with the inward face.

32. The transfer tool according to Claim 29,

wherein the inward face is set so as to be located in parallel with a second virtual standing face that is a virtual face standing along the transfer direction, and the inward face and the first virtual standing face forms a blunt angle opening to the transfer direction.